

No. AAI/SR/Chennai/Engg(C)/ILS/2023-24/39

Dt. 29.05.2023

To,

Shri.K.Murugesan,
Plot No: 70A, 2nd Main Road,
Veeramani Nagar,
Nanmangalam,
Chennai – 600 117.

Sub: Generic and equipment specific Civil and Electrical works for Installation of Nav-Aids – DVOR and ILS. SH: Civil & Electrical works for new LLZ-25 and new GP-25 at Operational area of Chennai Airport, Southern Region.

Ref: 1. Your e-tender (Envelope II - Price bid) opened on 10.05.2023
2. Tender ID No. 2023_AAI_150696_1

Sir,

1. Your E-tender for the work mentioned above is hereby accepted on behalf of the Chairman, Airports Authority of India at the item rates quoted by you totaling to Rs. 3,37,55,010.00 (Rupees Three Crores thirty seven lakhs fifty five thousand and ten only) plus applicable GST @ 18%, which is 7.34% above the estimated cost put to tender of Rs. 314.47 Lakhs.
2. Dy. Gen. Manager (Engg-Civil), AAI, RHQ-SR, Operational offices, Chennai-600 016 shall be the Engineer-in- Charge of the work. You are requested to attend the office of the Dy. Gen. Manager (Engg-Civil), AAI, RHQ-SR, Chennai – 600 016 within 15 days from the stipulated date of start of work to sign and complete the contract agreement. The contract agreement shall be executed on a non-judicial stamp paper of value of Rs. 100/- (Rupees One hundred only) and the cost of stamp paper shall be borne by you.
3. You are directed to deposit Rs. 33,75,501.00 (Rupees Thirty three lakhs seventy five thousand five hundred and one only) towards security deposit within 10 days from the date of issue of this letter, failing which, 10% of value of work done will be deducted from the running account bills as security deposit as per condition of Clause No.1(A) on page No. 16 of the Tender Document. The Earnest Money Amount of Rs. 6,29,000.00 (Rupees Six lakhs and twenty nine thousand only) received on line payment through CPP portal along with your tender will be refunded after depositing of security deposit or after deduction of the EMD amount as security deposit from the running bills.

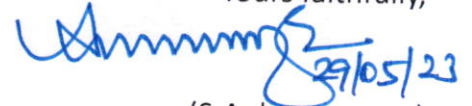


Contd...2

//2//

4. You are requested to comply with the provisions of contract labour (Regulation and Abolition) Act 1970 and Contract Labour (Regulation and Abolition) Central Rules 1971 and minimum wages Act and rules thereof Central and State Governments.
5. You are also directed to contact AGM (Engg-Civil), AAI, RHQ/SR, Chennai- 600 016 immediately who will arrange to hand over the site to you.
6. Please note that the time allowed for carrying out the work shall be **06 (SIX) Months including 30 (Thirty) days considered for rains** and same shall be reckoned from the tenth day after issue of this letter.
7. Any further correspondence in connection with the contract should normally be addressed to the Engineer-in-charge.
8. Please acknowledge the receipt and return the duplicate copy of this letter enclosed herewith after signing it to the undersigned, as a token of acceptance.

Yours faithfully,



(S. Anbumurugan)

Dy. Gen. Manager (Engg-Civil)

AAI, RHQ-SR, Chennai-600 016.

FOR AND ON BEHALF OF CHAIRMAN, AAI

Encl:

Schedule 'A'

Item Rate BoQ

Tender Inviting Authority: AGM (Engg-Civil), Operational Office Complex, RHQ-SR, Chennai 600 016.

Name of Work: "Generic and equipment specific Civil and Electrical works for Installation of Nav-Aids -DVOR and ILS. SH: Civil & Electrical works for new LLZ-25 and new GP-25 at Operational Area of Chennai Airport, Southern Region"

Contract No: 2023_AAI_150696_1

Name of the Bidder/ Bidding Firm / Company :	K.Murugesan					
PRICE SCHEDULE (This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)						
NUMBER #	TEXT #	NUMBER #	TEXT #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Quantity	Units	BASIC RATE Excluding GST In Figures To be entered by the Bidder Rs. P	TOTAL AMOUNT WITHOUT GST in Rs. P	TOTAL AMOUNT WITHOUT GST In Words
1	2	4	5	7	8	10
1	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge. All kinds of soil	272.00	Cum	400.00	108800.00	INR One Lakh Eight Thousand Eight Hundred Only
2	Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including getting out and disposal of excavated earth upto 50 m and lift upto 1.5 m, as directed by Engineer-in-Charge: All kinds of soil	9107.00	Sqm	150.00	1366050.00	INR Thirteen Lakh Sixty Six Thousand & Fifty Only
3	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m : All kinds of soil. Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia	620.00	Mtr	300.00	186000.00	INR One Lakh Eighty Six Thousand Only
4	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)	1080.00	Cum	6500.00	7020000.00	INR Seventy Lakh Twenty Thousand Only

5	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement All works upto plinth level Concrete of M25 grade with minimum cement content of 330 kg /cum	209.00	Cum	9000.00	1881000.00	INR Eighteen Lakh Eighty One Thousand Only
6	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement All works above plinth level upto floor V level Concrete of M25 grade with minimum cement content of 330 kg /cum	10.00	Cum	9000.00	90000.00	INR Ninety Thousand Only

7	Providing and laying in position ready mixed or site batched design mix cement concrete for plain cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana/Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering and finishing as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the minimum specified cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement All works upto plinth level : Concrete of M25 grade with minimum cement content of 300 kg /cum	21.00	Cum	9000.00	189000.00	INR One Lakh Eighty Nine Thousand Only
8	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more	31350.00	Kg	98.00	3072300.00	INR Thirty Lakh Seventy Two Thousand Three Hundred Only
9	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more	1500.00	Kg	98.00	147000.00	INR One Lakh Forty Seven Thousand Only
10	Centering and shuttering including strutting, propping etc. and removal of form for : Foundations, footings, bases of columns, etc. for mass concrete	153.00	Sqm	800.00	122400.00	INR One Lakh Twenty Two Thousand Four Hundred Only
11	Centering and shuttering including strutting, propping etc. and removal of form for : Lintels, beams, plinth beams, girders, bressumers and cantilevers	3.00	Sqm	800.00	2400.00	INR Two Thousand Four Hundred Only
12	Centering and shuttering including strutting, propping etc. and removal of form for : Columns, Pillars, Piers, Abutments, Posts and Struts	23.00	Sqm	800.00	18400.00	INR Eighteen Thousand Four Hundred Only
13	Centering and shuttering including strutting, propping etc. and removal of form for : Suspended floors, roofs, landings, balconies and access platform	66.00	Sqm	800.00	52800.00	INR Fifty Two Thousand Eight Hundred Only
14	6 mm cement plaster of mix : 1:3 (1 cement : 3 fine sand)	48.00	Sqm	450.00	21600.00	INR Twenty One Thousand Six Hundred Only

15	12 mm cement plaster of mix : 1:6 (1 cement: 6 fine sand)	232.00	Sqm	450.00	104400.00	INR One Lakh Four Thousand Four Hundred Only
16	15 mm cement plaster on the rough side of single or half brick wall of mix : 1:6 (1 cement: 6 fine sand)	159.00	Sqm	450.00	71550.00	INR Seventy One Thousand Five Hundred & Fifty Only
17	Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily. Double charge vitrified tile polished finish of size. Size of Tile 600 x 600 mm	80.00	Sqm	1600.00	128000.00	INR One Lakh Twenty Eight Thousand Only
18	Deduct for not using 20 mm thick cement mortar 1:4 (1 cement : 4 coarse sand) bedding in laying of floor tiles and jointing with grey cement slurry @ 3.3 kg/sqm.	40.00	Sqm	400.00	-16000.00	INR Minus Sixteen Thousand Only
19	Fixing glazed/ Ceramic/ Vitrified floor tiles with cement based high polymer modified quick-set tile adhesive (Water based) conforming to IS: 15477, in average 3mm thickness.	40.00	Sqm	1600.00	64000.00	INR Sixty Four Thousand Only
20	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	17.00	Sqm	1600.00	27200.00	INR Twenty Seven Thousand Two Hundred Only
21	Providing and laying rectified Glazed Ceramic floor tiles of size 300x300 mm or more (thickness to be specified by the manufacturer), of 1st quality conforming to IS : 15622, of approved make, in colours White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement: 4 Coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete	8.00	Sqm	1300.00	10400.00	INR Ten Thousand Four Hundred Only

22	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion. (i) Single socketed pipes. 110 mm diameter	10.50	Mtr	400.00	4200.00	INR Four Thousand Two Hundred Only
23	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion. (i) Bend 87.5° - 110 mm bend	4.00	Each	300.00	1200.00	INR One Thousand Two Hundred Only
24	Providing and laying 60mm thick factory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with line sand etc. all complete as per the direction of Engineer-in-charge	8526.00	Sqm	1150.00	9804900.00	INR Ninety Eight Lakh Four Thousand Nine Hundred Only
25	Banking available excavated earth in layers not exceeding 20 cm in depth. The complete operation includes spreading the earth ,breaking clods, levelling ,watering , rolling each layer with power roller of minimum 8 tonnes capacity and making good the undulations all complete . : All kinds of soil	1662.00	Cum	150.00	249300.00	INR Two Lakh Forty Nine Thousand Three Hundred Only
26	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Internal work Exposed on wall. 25 mm nominal dia Pipes	50.00	Mtr	500.00	25000.00	INR Twenty Five Thousand Only
27	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Internal work Exposed on wall. 20 mm nominal dia Pipes	10.00	Mtr	450.00	4500.00	INR Four Thousand Five Hundred Only
28	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.	2000.00	Litre	15.00	30000.00	INR Thirty Thousand Only

29	Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required : W.C. pan with ISI marked white solid plastic seat and lid	2.00	Each	6500.00	13000.00	INR Thirteen Thousand Only
30	Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of 430x260x350 mm or 340x410x265 mm sizes respectively.	2.00	Each	3500.00	7000.00	INR Seven Thousand Only
31	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require: White Vitreous China Flat back wash basin size 550x 400 mm with single 15 mm C.P. brass pillar tap	2.00	Each	4000.00	8000.00	INR Eight Thousand Only
32	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete. Flexible pipe. 32 mm dia	4.00	Each	150.00	600.00	INR Six Hundred Only
33	Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms. 15 mm nominal bore	4.00	Each	900.00	3600.00	INR Three Thousand Six Hundred Only
34	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931. 15mm nominal bore	6.00	Each	900.00	5400.00	INR Five Thousand Four Hundred Only
35	Providing and fixing unplasticised P.V.C. connection pipe with PTMT Nuts, collar and bush of approved quality and colour. 15 mm nominal bore with 45 cm length	4.00	Each	150.00	600.00	INR Six Hundred Only

36	Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand) with R.C.C. top slab with 1:1.5:3 mix (1 cement : 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand (zone-III) : 8 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design : Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) : With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	2.00	Each	25000.00	50000.00	INR Fifty Thousand Only
37	Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	2.00	Each	15000.00	30000.00	INR Thirty Thousand Only
38	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required. In stringers, treads, landings etc. of stair cases, including use of chequered plate wherever required, all complete	1050.00	Kg	130.00	136500.00	INR One Lakh Thirty Six Thousand Five Hundred Only
39	Providing and fixing in wall lining flat pressed three layer (medium density) particle board or graded wood Pre-laminated one side decorative lamination and other side balancing lamination Grade I, Type II, IS : 12823 marked, including priming coat on unexposed arrangement and screws etc. complete : 12mm thick	102.00	Sqm	1600.00	163200.00	INR One Lakh Sixty Three Thousand Two Hundred Only
40	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length (hold fast lugs or dash fastener shall be paid for separately). Second class teak wood	0.08	Cum	150000.00	12000.00	INR Twelve Thousand Only
41	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters. 35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	4.50	Sqm	3000.00	13500.00	INR Thirteen Thousand Five Hundred Only

42	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	4.50	Sqm	800.00	3600.00	INR Three Thousand Six Hundred Only
43	Providing and fixing IS : 12817 marked stainless steel butt hinges with stainless steel screws etc. complete : 125x64x1.90 mm	6.00	Each	100.00	600.00	INR Six Hundred Only
44	Providing and fixing bright finished brass 100 mm mortice latch and lock with 6 levers and a pair of lever handles of approved quality with necessary screws etc. complete.	2.00	Each	3000.00	6000.00	INR Six Thousand Only
45	Providing and fixing aluminium die cast body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 35 kg and door width upto 700 mm), with necessary accessories and screws etc. complete.	2.00	Each	2000.00	4000.00	INR Four Thousand Only
46	Providing and fixing factory made P.V.C. door frame of size 50x47 mm with a wall thickness of 5 mm, made out of extruded 5mm rigid PVC foam sheet, mitred at corners and joined with 2 Nos of 150 mm long brackets of 15x15 mm M.S. square tube, the vertical door frame profiles to be reinforced with 19x19 mm M.S. square tube of 19 gauge, EPDM rubber gasket weather seal to be provided through out the frame. The door frame to be fixed to the wall using M.S. screws of 65/100 mm size, complete as per manufacturer's specification and direction of Engineerin- Charge.	5.00	Mtr	500.00	2500.00	INR Two Thousand Five Hundred Only

47	Providing and fixing factory made panel PVC door shutter consisting of frame made out of M.S. tubes of 19 gauge thickness and size of 19 mm x 19 mm for styles and 15x15 mm for top & bottom rails. M.S. frame shall have a coat of steel primers of approved make and manufacture. M.S. frame covered with 5 mm thick heat moulded PVC 'C' channel of size 30 mm thickness, 70 mm width out of which 50 mm shall be flat and 20 mm shall be tapered in 45 degree angle on both side forming styles and 5 mm thick, 95 mm wide PVC sheet out of which 75mm shall be flat and 20 mm shall be tapered in 45 degree on the inner side to form top and bottom rail and 115 mm wide PVC sheet out of which 75 mm shall be flat and 20 mm shall be tapered on both sides to form lock rail. Top, bottom and lock rails shall be provided both side of the panel. 10 mm (5 mm x 2) thick, 20 mm wide cross PVC sheet be provided as gap insert for top rail & bottom rail, paneling of 5 mm thick both side PVC sheet to be fitted in the M.S. frame welded/ sealed to the styles & rails with 7 mm (5 mm+2 mm) thick x 15 mm wide PVC sheet beading on inner side, and joined together with solvent cement adhesive. An additional 5 mm thick PVC strip of 20 mm width is to be stuck on the interior side of the 'C' Channel using PVC solvent adhesive etc. complete as per direction of Engineer-in-charge, manufacturer's specification & drawing. 30 mm thick plain PVC door shutters	2.00	Sqm	2500.00	5000.00	INR Five Thousand Only
48	Providing and fixing aluminium sliding door bolts, ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868), transparent or dyed to required colour or shade, with nuts and screws etc. complete : 250x16 mm	2.00	Each	300.00	600.00	INR Six Hundred Only
49	Providing and fixing aluminium tower bolts, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete : 200x10 mm	1.00	Each	300.00	300.00	INR Three Hundred Only
50	Providing and fixing aluminium handles, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete : 125 mm	6.00	Each	200.00	1200.00	INR One Thousand Two Hundred Only

51	Providing and fixing false ceiling at all height including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25x10x0 50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the spacing of 1200 mm centre to centre, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm centre to centre, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I. wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound, jointing tapes, finishing with jointing compound in 3 layers covering upto 150 mm on both sides of joint and two coats of primer suitable for board, all as per manufacturer's specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer in Charge but excluding the cost of painting with : 12.5 mm thick tapered edge gypsum plain board conforming to IS: 2095- (Part I) :2011 (Board with BIS certification marks)	80.00	Sqm	1900.00	152000.00	INR One Lakh Fifty Two Thousand Only
52	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) : For fixed portion. Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)	810.00	Kg	600.00	486000.00	INR Four Lakh Eighty Six Thousand Only
53	Finishing walls with Acrylic Smooth exterior paint of required shade : New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)	126.00	Sqm	200.00	25200.00	INR Twenty Five Thousand Two Hundred Only
54	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	124.00	Sqm	200.00	24800.00	INR Twenty Four Thousand Eight Hundred Only

55	Applying one coat of water thinnable cement primer of approved brand and manufacture on wall surface : Water thinnable cement primer	120.00	Sqm	65.00	7800.00	INR Seven Thousand Eight Hundred Only
56	Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade : Two or more coats on new work	164.00	Sqm	200.00	32800.00	INR Thirty Two Thousand Eight Hundred Only
57	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade : Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture	9.00	Sqm	200.00	1800.00	INR One Thousand Eight Hundred Only
58	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations: (a) Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300 mm height including cleaning the surface before treatment. (b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs. (c) After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge. (d) Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement : 4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep. (e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test."All above operations to be done in order and as directed and specified by the Engineer-in-Charge : With average thickness of 120 mm and minimum thickness at khurra as 65 mm.	40.00	Sqm	2500.00	100000.00	INR One Lakh Only
59	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 5.0 in foundation and plinth in : Cement mortar 1:6 (1 cement : 6 coarse sand)	21.00	Cum	9510.00	199710.00	INR One Lakh Ninety Nine Thousand Seven Hundred & Ten Only
60	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 5.0 in superstructure above plinth level up to floor V level in all shapes and sizes in :: Cement mortar 1:6 (1 cement : 6 coarse sand)	27.00	Cum	9500.00	256500.00	INR Two Lakh Fifty Six Thousand Five Hundred Only
61	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. External work. 150 mm nominal dia Pipes	660.00	Mtr	3500.00	2310000.00	INR Twenty Three Lakh Ten Thousand Only

62	Providing and fixing of Fire retardant water proof Frangible Hut for Glide path inside the operational area. The wall and roof shall be made of 50mm thick PUF panels having density $40 \pm 2 \text{ Kg/M}^3$, outer skin and inner skin shall be made of 2mm thick FRP Sheets. The jointing system should be tongue and groove configuration. The size of hut shall be 8Mtr x 5Mtr x 3Mtr (Centre height 3.50 Mtr) having one partition and 2 nos doors including fixtures. Hut shall have adjoining toilet of size 2Mtr x 2Mtr x 3.50Mtr having one door including fixtures. Necessary provision should be made available for fixing of Electrical Panels, AC units, light fittings, Taps, water lines, sewer line, EWC, water tank etc., as per the requirement at site. The outer structure shall be painted with white and red 2 feet X 2 feet and inner wall & ceiling shall be painted preferably with white colour. The flooring shall be smooth- antiskit-non-slippery granite finish vitrified tiles. The rate is inclusive of design, detailed drawing, vetting of design by IIT / NIT / Reputed Government Institutions, transportation and installation all complete as per the direction of Engineer-In-Charge. (Cost of Flooring & Painting of outer and inner, EWC/ Washbasin, waterline / seweline, mirror etc shall be paid separately)	1.00	Set	3000000.00	3000000.00	INR Thirty Lakh Only
63	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete : 20 mm nominal bore	2.00	Each	2000.00	4000.00	INR Four Thousand Only
64	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) : 20 mm nominal bore	2.00	Each	2000.00	4000.00	INR Four Thousand Only
65	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including hire & running charges of all equipments, tools, plants & machineries, Labours required for the job, all complete as per direction of Engineer-in-charge, upto 150 metre depth below ground level. All types of soil. 200 mm dia	300.00	Mtr	1500.00	450000.00	INR Four Lakh Fifty Thousand Only
66	Supplying, assembling, lowering and fixing in vertical position in bore well, unplasticized PVC medium well casing (CM) pipe of required dia, conforming to IS: 12818, including required hire and labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer -in-charge. 200 mm nominal size dia	100.00	Mtr	2500.00	250000.00	INR Two Lakh Fifty Thousand Only

67	Supplying, assembling, lowering and fixing in vertical position in bore well unplasticized PVC medium well screen (RMS) pipes with ribs, conforming to IS: 12818, including hire & labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer-in-charge. 150 mm nominal size dia	200.00	Mtr	1500.00	300000.00	INR Three Lakh Only
68	Making soak pit 2.5 m diameter 3.0 metre deep with 45 x 45 cm dry brick honey comb shaft with bricks and S.W. drain pipe 100 mm diameter, 1.8 m long complete as per standard design. With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	2.00	Each	25000.00	50000.00	INR Fifty Thousand Only
69	Providing and fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing : Rectangular shape 453x357mm	2.00	Each	1500.00	3000.00	INR Three Thousand Only
70	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour. 600 mm long towel rail with total length of 645mm, width 78 mm and effective height of 88 mm, weighing not less than 190 gms.	2.00	Each	1200.00	2400.00	INR Two Thousand Four Hundred Only
71	Providing and laying PVC (Working pressure 6kg/sqcm) pipes conforming to IS : 4985 including trenching, refilling jointing and laying in proper slope etc. complete as per the direction of Engineer in charge. Single Socketed pipe - 150mm dia	20.00	Mtr	1200.00	24000.00	INR Twenty Four Thousand Only
72	Providing and laying PVC (Working pressure 6kg/sqcm) pipes conforming to IS : 4985 including jointing and laying in proper slope etc. complete as per the direction of Engineer in charge. Single Socketed pipe - 63mm dia	10.00	Mtr	300.00	3000.00	INR Three Thousand Only
73	Providing and fixing Health Faucet with 1 Meter Long Easy Flex Tube in Chrome Finish of approved quality complete etc. as per the direction of EIC. (a) 15mm dia nominal bore	2.00	Each	1000.00	2000.00	INR Two Thousand Only
74	Providing and fixing PVC floor trap of make Finolex or equivalent including embedding in the floors in concrete 1:3:6 (1 cement: 3 coarse sand: 6 stone aggregate size 20mm size) including conveying the materials to all floors including cutting concrete or masonry wherever required and restoring the damaged portion to the original condition complete as directed by EIC. (a) 110mm dia.	2.00	Each	300.00	600.00	INR Six Hundred Only

75	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x 1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	2.00	Each	250.00	500.00	INR Five Hundred Only
76	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion. Shoe (Plain) - 110 mm Shoe	2.00	Each	200.00	400.00	INR Four Hundred Only
77	Gravel packing in tubewell construction in accordance with IS: 4097, including providing gravel fine/ medium/ coarse, in required grading & sizes as per actual requirement, all complete as per direction of Engineer-in-charge.	8.00	Cum	7000.00	56000.00	INR Fifty Six Thousand Only
78	Providing and fixing mild steel round holding down bolts with nuts and washer plates complete.	75.00	Kg	200.00	15000.00	INR Fifteen Thousand Only
79	Providing and fixing suitable size threaded mild steel cap or spot welded plate to the top of bore well housing/ casing pipe, removable as per requirement, all complete for borewell of: 200 mm dia	2.00	Each	500.00	1000.00	INR One Thousand Only
80	Providing and fixing 2 in 1 bib cock of approved make, 15mm nominal bore including necessary screws and fixtures all and as per the direction of Engineer in charge.	2.00	Each	3000.00	6000.00	INR Six Thousand Only
81	Preparation and submission of structural designs and GFC drawings for building as well as antenna. i. All structural design should be vetted by IIT / Govt. Engineering College. ii. Three sets of structural design drawings (GFC drawing) and one set of design calculation in hard copies along with soft copies of design and drawings are to be submitted.	1.00	Job	130000.00	130000.00	INR One Lakh Thirty Thousand Only
82	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in recessed steel conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required. Group C	18.00	Point	2000.00	36000.00	INR Thirty Six Thousand Only

83	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in recessed steel conduit as required. 2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	120.00	Mtr	540.00	64800.00	INR Sixty Four Thousand Eight Hundred Only
84	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in recessed steel conduit as required. 2 X 4 sq. mm + 1 X 4 sq. mm earth wire	464.00	Mtr	500.00	232000.00	INR Two Lakh Thirty Two Thousand Only
85	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in recessed steel conduit as required. 4 X 10 sq. mm + 2 X 6 sq. mm earth wire	48.00	Mtr	650.00	31200.00	INR Thirty One Thousand Two Hundred Only
86	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in recessed steel conduit as required. 4 X 16 sq. mm + 2 X 6 sq. mm earth wire	48.00	Mtr	2000.00	96000.00	INR Ninety Six Thousand Only
87	Wiring for group controlled (looped) light point/fan point/exhaust fan point/ call bell point (without independent switch etc.) with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable in recessed steel conduit, and earthing the point with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable etc. as required. Group C	30.00	Point	2100.00	63000.00	INR Sixty Three Thousand Only
88	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	58.00	Each	400.00	23200.00	INR Twenty Three Thousand Two Hundred Only
89	Supplying and fixing of 8 way (8 + 24), Double door, horizontal type three pole and neutral, IP43, sheet steel, MCB distribution board, 415 V, on surface/recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc., as required.	2.00	Each	20000.00	40000.00	INR Forty Thousand Only
90	Supplying and fixing Cable End Box (Loose Wire Box) suitable for 8 Way Double door, triple pole and neutral, sheet steel, MCB distribution board, 415 Volts, on surface/ recess, complete with testing and commissioning etc.as required. (DSR Electrical 2.24.3)	2.00	Each	2000.00	4000.00	INR Four Thousand Only

91	Supplying and fixing 20 A, 240 V, SPN Industrial type socket outlet, with 2 pole and earth, metal enclosed plug top alongwith 20 A "C" curve, SP, MCB, in sheet steel enclosure, in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	6.00	Job	2000.00	12000.00	INR Twelve Thousand Only
92	Providing and fixing circular/ Hexagonal cast iron or M.S. sheet box for ceiling fan clamp, of internal dia 140 mm, 73 mm height, top lid of 1.5 mm thick M.S. sheet with its top surface hacked for proper bonding, top lid shall be screwed into the cast iron/ M.S. sheet box by means of 3.3 mm dia round headed screws, one lock at the corners. Clamp shall be made of 12 mm dia M.S. bar bent to shape as per standard drawing in CPWD internal-2013 Fig-6. (Civil DSR V-1 item 10.18)	2.00	Job	350.00	700.00	INR Seven Hundred Only
Total in Figures					33755010.00	INR Three Crore Thirty Seven Lakh Fifty Five Thousand & Ten Only
Quoted Rate in Words						